IMPORTED CABBAGE WORM

a, *a*, *a*, Butterflies (or adults) with wings in natural positions; *b*, *b*, larvae (caterpillars, or "worms"); *c*, *c*, pupae (chrysalids—the resting stage); d, cabbage plant showing typical feeding injuries. (Upper illustration: *a*, *b*, and *c* about one-half natural size; *d* slightly less than two-thirds natural size. Lower illustrations: *a*, *b*, and *c* about natural size.)

(See other side for life history and control)

Bureau of Entomology and Plant Quarantine
United States Department of Agriculture

Picture Sheet No. 9

IMPORTED CABBAGE WORM

(*Pieris rapae* (L.))

General Life History

The imported cabbage worm is the larva of a white butterfly, which passes the winter in the chrysalis or pupal stage in the Northern States. In the more southerly States the larvae, or "worms," may be found from March until December, and in some areas throughout the winter. The butterflies emerge from the chrysalids early in the spring. The female butterfly deposits each egg separately, in contrast to the habit of many other insects which deposit their eggs in masses. The eggs are usually laid on the under side of the leaves of cabbage, collards, cauliflower, broccoli, and other food plants. The time required for the various stages of the insect to develop varies with the season. However, the eggs usually hatch within a week, and the larval and pupal stages each develop in from 1 to 2 weeks; so there are several broods each year, ranging from 3 to 6 in different parts of the country. The velvety-green larvae, or caterpillars, are especially fond of the tender, immature heads of cabbage, to which they often cause severe injury.

Control

The imported cabbage worm is readily controlled by the use of one of several insecticides.

The safest and one of the most effective methods is the use of a derris or cube dust mixture containing from 0.75 to 1.0 percent of rotenone. Applications should be made at intervals of about 10 days from the time the caterpillars are first discerned on the plants until such time as the pest is brought under control or the harvesting of the crop is completed. The dust may be obtained already prepared, in which case the amount of rotenone present is shown on the package; or it may be made by mixing the derris or cube root powder with talc, pulverized clay, sulfur, or tobacco dust. For example, to prepare a ¾-percent rotenone dust from a derris powder which contains 4 percent of rotenone, use 1 pound of derris to 5 pounds of the talc or other material; for larger quantities, use 16 pounds of the derris to 84 pounds of other material. For best results the dust applications should be made late in the afternoon or early in the evening when the air is practically calm and the plants are slightly moist with dew. Special care should be given to see that the insects and the "buds," or heads of the plants, are reached by the insecticide. The dosage will vary according to the size of the plants, but should range from about 10 to 25 pounds per acre per application.

Fresh pyrethrum flowers powder (containing approximately 0.9 percent of total pyrethrins) diluted with 2 parts of talc or one of the other materials listed will also give satisfactory control.

Although dusts have, in general, given better results than sprays in controlling the imported cabbage worm, the materials previously mentioned may be applied as sprays. A spray consisting of from 2 to 2½ pounds of a derris powder (containing 4 percent of rotenone) to 50 gallons of water, to which may be added a nonalkaline spreader or sticker, is recommended. Sprays made from extracts of derris or pyrethrum, or a combination of them, when prepared according to the manufacturer's directions, may also be used.

16—20765

April 1941

U. S. Government Printing Office

For sale by the Superintendent of Documents,

UNIVERSITY OF FLORIDA

3 1262 09082 4672